

**AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A method for fabricating a trench isolation structure, comprising:
- forming a mask on a substrate;
  - forming at least one trench in the substrate by using the mask;
  - selectively growing a first insulation material in the trench to ~~at least partially~~ fill the at least one trench in the substrate in at least a lower part of the one trench with the insulation material in the presence of the mask; and
  - applying a second insulation material over an entire surface of the structure to fill the at least one trench in the substrate at least up to a top side of the mask.
2. (Previously presented) The method for fabricating a trench isolation structure according to Claim 1, wherein the substrate is made from silicon, the mask is made from silicon nitride and the first and second insulation materials are formed from silicon oxide.
3. (Previously presented) The method for fabricating a trench isolation structure according to Claim 1, wherein after the selective deposition a conditioning process is carried out to compact the first insulation material.
4. (Previously presented) The method for fabricating a trench isolation structure according to Claim 1, wherein the second insulation material is applied by an HDP process.
5. (Previously presented) The method for fabricating a trench isolation structure according to claim 1, wherein the second insulation material is planarized by chemical mechanical polishing on the mask.